

Amendments to the Claims:

Rewrite the claims as set forth below. This listing of claims replaces all prior versions and listings of claims in the application:

Listing of the Claims:

1. (currently amended) A method for object based visibility culling comprising:
receiving a plurality of draw packets;
comparing each of the plurality of draw packets to a bounding volume object, wherein the bounding volume object is a geometric representation of a specific object identified as geometry whose visibility status is desired;
for each of the plurality of draw packets, if the draw packet is deemed potentially visible, setting a visibility query identifier, wherein the visibility query identifier corresponds to a single or multi-bit indicator; and
rendering one or more draw packets having the set visibility query identifier.
2. (previously presented) The method of claim 1 further comprising, prior to rendering the one or more draw packets, providing the plurality of draw packets to a command processor such that the command processor checks for the set visibility query identifier.
3. (previously presented) The method of claim 1 wherein prior to rendering the one or more draw packets the method further includes fetching a plurality of indices for the one or more draw packets.

4. (previously presented) The method of claim 3 wherein when the visibility query identifier is not set, indicating that a particular draw packet is not visible, the command processor discards the draw packet prior to fetching a plurality of indices.

5. (previously presented) The method of claim 2 further comprising, prior to providing the plurality of draw packets to the command processor, stalling for a predetermined time interval to insure the setting of the visibility query identifier.

6. (previously presented) The method of claim 1 wherein comparing each of the plurality of draw packets to the bounding volume object includes at least one of the following: back-face culling, view frustum comparison, user-clip plane discard, and hierarchical-z discard.

7. (currently amended) A method for object based visibility culling comprising:
receiving a plurality of draw packets;
comparing each of the plurality of draw packets to a bounding volume object, wherein the bounding volume object is a geometric representation of a specific object identified as geometry whose visibility status is desired;
for each of the plurality of draw packets, if the draw packet is deemed potentially visible, setting a visibility query identifier, wherein the visibility query identifier corresponds to a single or multi-bit indicator;

providing the plurality of draw packets to a command processor such that the command processor checks for the set visibility query identifier; and

rendering one or more draw packets having the set visibility query identifier, including fetching a plurality of indices for the one or more draw packets, wherein when the visibility query identifier is not set, indicating that a particular draw packet is not visible, the command processor discards the draw packet.

8. (cancelled)

9. (previously presented) The method of claim 7 further comprising, prior to providing the plurality of draw packets to the command processor, stalling for a predetermined time interval to insure the setting of the visibility query identifier.

10. (previously presented) The method of claim 7 wherein comparing each of the plurality of draw packets to the bounding volume object includes at least one of the following: back-face culling, view frustum comparison, user-clip plane discard, and hierarchical-z discard.

11. (currently amended) An apparatus for object based visibility culling, the apparatus comprising:

a general processing unit; and

a memory device storing executable instructions such that the general processing unit, in response to the executable instructions:

receives a plurality of draw packets;

compares each of the plurality of draw packets to a bounding volume object, wherein the bounding volume object is a geometric representation of a specific object identified as geometry whose visibility status is desired;

for each of the plurality of draw packets, if the draw packet is deemed potentially visible, sets a visibility query identifier, wherein the visibility query identifier corresponds to a single or multi-bit indicator; and

renders one or more draw packets having the set visibility query identifier.

12. (previously presented) The apparatus of claim 11 wherein the processor, in response to the executable instruction and prior to rendering the draw packets, provides the plurality of draw packets to a command processor such that the command processor checks for the set visibility query identifier.

13. (previously presented) The apparatus of claim 11 wherein the processor, in response to the executable instructions, fetches a plurality of indices for the one or more draw packets.

14. (previously presented) The apparatus of claim 12 wherein the processor, in response to the executable instructions and when the visibility query identifier is not set, indicating that a particular draw packet is not visible, the command processor discards the draw packet.

15. (previously presented) The apparatus of claim 12 wherein the processor, in response to the executable instructions and prior to providing the plurality of draw packets to the command processor, stalls for a predetermined time interval to insure the setting of the visibility query identifier.

16. (previously presented) The apparatus of claim 11 wherein comparing each of the plurality of draw packets to the bounding volume object includes at least one of the following: back-face culling, view frustrum comparison, user-clip plane discard, and hierarchical-z discard.

17. (currently amended) A method for object based visibility culling comprising:
receiving a plurality of draw packets;
comparing each of the plurality of draw packets to a bounding volume object, wherein the bounding volume object is a geometric representation of a specific object identified as geometry whose visibility is desired and wherein the geometric representation of the specific object is a low resolution model of the specific object that is rendered prior to a detailed model of the specific object;
for each of the plurality of draw packets, if the draw packet is deemed potentially visible, setting a visibility query identifier, wherein the visibility query identifier corresponds to a single or multi-bit indicator; and
rendering one or more draw packets having the set visibility query identifier.

18. (previously presented) The method of claim 17 wherein:

prior to rendering the one or more draw packets, the method further includes providing the plurality of draw packets to a command processor such that the command processor checks for the set visibility query identifier, and

when the visibility query identifier is not set, indicating that a particular draw packet is not visible, the command processor discards the draw packet.

19. (previously presented) The method of claim 18 wherein prior to providing the plurality of draw packets to the command processor, the method further includes stalling for a predetermined time interval to insure the setting of the visibility query identifier.